A packet control function (PCF) exchanging messages with a packet data serving node (PDSN) in a wireless communication network guards against malicious or erroneous message replay by checking the "reasonableness" of PDSN time stamps in registration messages it receives over its PDSN interface. Received messages that are too old are rejected by the PCF, even if otherwise valid. A configurable time threshold may be set at the PCF that determines the allowable maximum age of a received message. Further, because messages received from the PDSN contain echoed identifier values generated by the PCF, the PCF may implement identifier value function generation that insures no repeated identifier values over a desired interval. The desired interval is set larger than the allowable message age to further guard against attempted message replay.